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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,290	07/24/2003	Seung Weon Lee	1455-031353	1872
7590		07/02/2004	EXAMINER	
Kent E. Baldauf, Sr.		NGUYEN, DUNG V		
700 Koppers Building		ART UNIT		
436 Seventh Avenue		PAPER NUMBER		
Pittsburgh, PA 15219-1818		3723		

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,290

Applicant(s)

LEE ET AL.

Examiner

Dung V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/12/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genau et al (USPN 6,071,185) in view of Sakarcan (USPN 5,471,970). Genau et al discloses a saw blade comprising a disc-shaped shank 2 having an insertion hole 13 formed at the center thereof so that rotating shaft of an powered tool is inserted through the insertion hole 13 of the shank 2, wave-shaped portion formed over a prescribed portion of the radius of the disc-shaped shank 2, the wave-shaped portions being spaced a prescribed distance from each other and alternately arranged on the front and rear surfaces of the disc-shaped shank 2 being at a distance from the center of the insertion hole 13, an abrasive ring 1 attached to the outer circumference of the shank 2 for cutting the workpiece, wherein the prescribed portion of the radius of the disc-shaped shank 2 is more than the radius of the insertion hole and less than the radius of the outer peripheral part of the saw blade formed by attaching the cutting tip to the shank 2, wherein the height of each of the prominences of the wave-shaped portions of the shank 2 is less than the height of the front and rear of prominence of the cutting ring 1 (note Fig. 1 and 2, col. 2, line 13 to col. 3, line 17). Genau et al does not disclose a cutting ring having a plurality of cutting tips. Sakarcan discloses a saw blade having a

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plurality of cutting tips 6 containing particles of high hardness (note Fig. 1, col. 4, lines 9-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the saw blade of Genau et al with a plurality of cutting tips disclosed by Sakarcı in order to reduce heating of the blade and help clear foreign particles from the cut during operation.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genau et al (USPN 6,071,185) in view of Sakarcı (USPN 5,471,970). Genau et al, as modified by Sakarcı as applied to claim 1 above, lacks a wave-shaped portions of the shank formed in helical fashion. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to form the wave-shaped portions of the shank in a helical fashion because Applicant has not disclosed that forming wave-shaped portions of the shank in a helical fashion provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have been expected Applicant's invention to perform equally well with either helical wave-shaped portions or plain wave-shaped portions because both perform the same function of increase the mechanical strength and stiffness of the shank. Therefore, it would have been an obvious matter of design choice to modify the saw blade of Genau et al, as modified by Sakarcı, to obtain the invention as specified in claim 5.

Allowable Subject Matter

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4. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: prior art of record considered as a whole alone or in combination neither anticipates nor renders obvious, a plurality of rings formed on a shank and are alternately arranged on a front and rear surfaces of a disc-shaped shank, in combination with the rest of the limitations in claim 4.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Peterson, Storzer and Park are cited to show wave-shaped portions of a shank of a saw blade.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung V Nguyen whose telephone number is 703-305-0036. The examiner can normally be reached on M-F, 6:30-3:00.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail can be reached on 703-308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DVN

June 21, 2004



DUNG VAN NGUYEN
PRIMARY EXAMINER